

# Find shapes with hough circles

This tutorial shows how to find shape with a given color within an image.

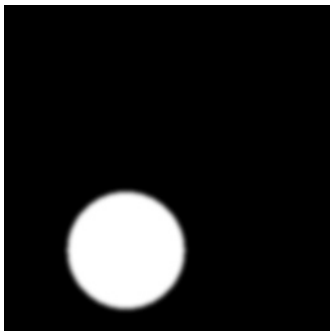
```
|[ns combative-atoll
  (:require
    [opencv3.core :refer :all]
    [opencv3.utils :as u]))
```

```
nil
```

```
(def bgr-image
  (-> "resources/detect/circles.jpg" imread (u/resize-by 0.5) ))
(u/mat-view bgr-image)
```



```
(def ogr-image
  (-> bgr-image
    (clone)
    (median-blur! 3)
    (cvt-color! COLOR_BGR2HSV)
    (in-range! (new-scalar 0 100 100) (new-scalar 10 255 255))
    (gaussian-blur! (new-size 9 9) 2 2)))
(u/mat-view ogr-image)
```



Let's find the circles using the **hough-circles** function from opencv core.

```
(def circles (new-mat))
(hough-circles ogr-image circles CV_HOUGH_GRADIENT 1 (/ (.rows bgr-image) 8) 100 20 0 0)
(dotimes [i (.cols circles)]
  (let [ circle (.get circles 0 i) x (nth circle 0) y (nth circle 1) r (nth circle 2) p
        (new-point x y)]
    (opencv3.core/circle bgr-image p (int r) (new-scalar 0 255 0) 5)))
(u/mat-view bgr-image)
```

